

## Depressive and Anxiety Symptoms in the Acute Stage of Stroke

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**Background** : Accompanied psychiatric conditions in stroke patients may have negative impact on their mental health and rehabilitation. Research, treatment and rehabilitation on stroke, however, have focused on physical aspects, neglecting its psychiatric aspects. The aim of this study is to investigate the prevalence of depressive and anxiety symptoms in the acute stage of stroke, and to examine the relationship between these symptoms and the degree of physical disabilities, social support system, and the quality of life of the patients. **Methods** : Of the 80 hospitalized stroke patients at the Hallym Stroke Center between July of 1999 and February of 2000, 51 patients who were communicable were included in this study. Hamilton Depression Scale (HAM-D) and Beck Depression Inventory (BDI) were used to evaluate depression, and Hamilton Anxiety Scale (HAM-A) and Beck Anxiety Inventory (BAI) for anxiety. With Social Support Scale and World Health Organization's Quality of Life Scale, social support system and quality of life of the stroke patients were evaluated. Physical disabilities were rated with National Institutes of Health Stroke Scale(NIHSS) and Barthel's Index. **Results** : Thirty three percent and 67% of the stroke patients in HAM-D and BDI analysis showed to have depressive symptoms, and 94% and 49 % of the patients in HAM-A and BAI analysis exhibited anxiety symptoms in the acute stage of stroke. Social Support Scale was negatively correlated with depressive and anxiety symptoms. On the contrary, physical disabilities did not have any correlation with them. In the same manner, quality of life was correlated with depressive symptoms, anxiety symptoms and social support system while physical disabilities were not. **Conclusions** : Majority of stroke patients in their acute stage had depressive and anxiety symptoms, and these symptoms and quality of life were not correlated with the degree of physical disabilities.

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**Key Words** : Stroke, Depressive symptoms, Anxiety symptoms, Physical disability

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(43 ) . 가  
Barthel 's Index[18] National Institutes of Health Stroke Scale(NIHSS)[19]  
가 .  
(social support system)  
가 [20]  
가 (appendix),  
가 ( ) [21] .  
, HAM-D HAM-A,  
BDI BAI  
, Barthel 's index, NIHSS  
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가 가 가

missing .  
Pearson correlation ,  
SPSS 8.0 for windows .  
1.  
34 88 80  
가 51 .  
51  
가37 , 가 14 62.0  
± 12.9 , 3 ,  
48 . Barthel 's index NIHSS  
89.6 ± 18.7 2.3 ± 2.4 .  
Table 1

2.  
HAM-D 가 ,  
51 15 (29.4%) ,  
3 (5.9%) , 1 (2.0%)  
, 32 (67.2%)  
. BDI  
17 (33.3%),  
가 11 (21.6%),  
가 4 (7.8%), 가 7  
(13.7%), 가 12

**Table 1.** General characteristics of patients with stroke

Characteristics	No. of cases(%)
Age(year)	
30-39	5( 9.8)
40-49	4( 7.8)
50-59	11(21.6)
60-69	15(29.4)
70-79	14(27.5)
80-89	2( 3.9)
Sex	
Male	37(72.5)
Female	14(27.5)
Religion	
Yes	32(62.7)
No	19(37.3)
Marital status	
Married	37(70.6)
Unmarried	1( 2.0)
Divorced	0( 0.0)
Bereaved	6(11.8)
Barthel 's index score	89.6 ± 18.7
NIHSS score	2.3 ± 2.4

NIHSS : National Institutes of Health Stroke Scale

**Table 2.** Distribution of depressive symptoms

Severity	Frequency(%)	
	HAM-A	BAI
Normal	32(62.7)	17(33.3)
Mild	15(29.4)	11(21.6)
Moderate	3( 5.9)	4( 7.8)
Severe	1( 2.0)	7(13.7)
Very severe	×	12(23.5)

**Table 3.** Distribution of anxiety symptoms

Severity	Frequency(%)	
	HAM-A	BAI
Normal	3( 5.9)	26(51.0)
Mild	42(82.3)	13(25.5)
Moderate	6(11.8)	3( 5.9)
Severe	0( 0.0)	2( 3.9)
Very severe	×	7(13.7)

(23.5%) (Table 2).  
HAM-A 가 , 42  
(82.4%) , 6 (11.8%)  
3 (5.9%)  
. BAI  
26 (51.0%), 가13  
(25.5%), 가 3  
(5.9%), 가 2  
(3.9%), 가 7

(13.7%) (Table 3). (Table 4).

3. , 5. , ,

HAM-D, BDI 가 Barthel 's HAM-D, BDI 가  
index, NIHSS 가 . HAM-A, BAI 가  
Barthel 's index, NIHSS 가 . HAM-A, BAI

(Table 4). Barthel 's index, NIHSS (Table 5).

4. ,

HAM-D 가 . HAM-A 가

BDI, BAI

**Table 4.** Correlation coefficient(r) between severity of depressive/anxiety symptoms and severity of physical disability/social support system

	Correlation coefficient(r)			
	HAM-D	BDI	HAM-A	BAI
BI	0.054	0.196	0.028	-0.097
NIHSS	0.205	-0.006	0.151	0.198
SSS	0.434**	-0.156	-0.374*	-0.135

BI : Barthel 's index

NIHSS : National Institutes of Health Stroke Scale

SSS : Social Support System score

HAM-D : Hamilton Depression scale

BDI : Beck Depression Inventory

HAM-A : Hamilton Anxiety scale

BAI : Beck Anxiety Inventory

\* : correlation is significant at the 0.05 level(2-tailed)

\*\* : correlation is significant at the 0.01 level(2-tailed)

**Table 5.** Correlation between quality of life scale and severity of depressive/anxiety symptoms, severity of physical disability, and social support system

	Correlation coefficient(r)						
	HAM-D	BDI	HAM-A	BAI	SSS	BI	NIHSS
QLS	-0.542**	-0.582**	-0.529**	-0.471**	0.374*	-0.154	-0.167

QLS : Quality of life scale

HAM-D : Hamilton Depression scale

BDI : Beck Depression Inventory

HAM-A : Hamilton Anxiety scale

BAI : Beck Anxiety Inventory

SSS : Social Support System score

BI : Barthel 's index

NIHSS : National Institutes of Health Stroke Scale

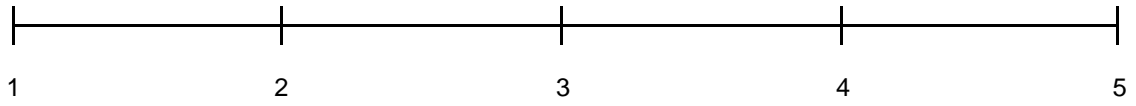
\* : correlation is significant at the 0.05 level(2-tailed)

\*\* : correlation is significant at the 0.01 level(2-tailed)

가 . HAM-D HAM-A  
4 (normal, mild,  
moderate, severe) , BDI BAI  
5 (normal, mild, moderate, severe,  
very severe)  
29.4% , 5.9%  
2.0%  
32.8%가 , 가 (BDI)  
21.6%가 , 7.8%가 가 BDI BAI  
13.7%가 ,  
23.5%가 (loss)  
66.6%가 (threatening)  
[24].  
Astrom [22]  
25%가 (major depressive disorder) , [5].  
Robinson [11]  
2 27%가  
(chemical imbalance)  
가  
DSM(Diagnostic and Statistical Manual of  
Mental disorders)  
HAM-D, BDI 가 가  
가  
가  
(HAM-A) 82.4%가 , Barthel's index, NIHSS  
11.8% ,  
94.2%가 , 가 ,  
(BAI) 25.5%가 , 5.9%가 가 ,  
3.9%가 ,  
13.7%가  
49%가 가  
가 HAM-A ,  
100%가 [23]. (cross  
sectional study)  
가 ,  
가 BDI ,  
HAM-A , HAM- 가  
D, BAI  
가  
 , BDI BAI [25].  
HAM-D HAM-A 가 ,  
가 가 가

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## Appendix



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